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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,858	05/27/2005	Luigi Resconi	FE 6071 (US)	4410
34872	7590	07/10/2008		
Basell USA Inc. Delaware Corporate Center II 2 Righter Parkway, Suite #300 Wilmington, DE 19803			EXAMINER LEE, RIP A	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			07/10/2008 ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents-us@basell.com

# Office Action Summary

**Application No.**

10/536,858

**Applicant(s)**

RESCONI ET AL.

**Examiner**

RIP A. LEE

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on April 14, 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 9 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date 04-14-2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

This office action follows a response filed on April 14, 2008. Claims 1, 3, 4, 7, 9 were amended, and new claims 12-14 were added. Claims 1-7, 9, and 12-14 are pending.

#### ***Claim Objections***

1. Claim 9 is objected to because of the following informalities: On page 7, line 11, please replace "alkaline or alkali-earth metal" with "alkali or alkaline earth metal." Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-7 and 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 7, since there are two X substituents ( $p$  is 2), the metal M can not be a lanthanide metal, which has a maximum valence of 3. Also, the existence of group 5 and 6 metal complexes in the +4 oxidation state are unlikely.

In claims 1 and 7, a single X can not be a divalent -OR'O- group; claims should be amended to indicate that alternatively, two X groups may be combined to form a divalent -OR'O-group.

These inconsistencies in the defining the structural parameters of compounds (I) and (IIb) render the claims indefinite since the claimed subject matter is not distinctly claimed.

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4. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Since there are two X substituents ( $p$  is 2), the metal M can not be a lanthanide metal, which has a maximum valence of 3. Also, the existence of group 5 and 6 metal complexes in the +4 oxidation state is unlikely.

A single X can not be a divalent -OR'O- group; claims should be amended to indicate that alternatively, two X groups may be combined to form a divalent -OR'O- group. This discrepancy is especially of concern in the process step (b) where the product obtained in step (a) is contacted with a compound of formula  $MX_4$ .

These inconsistencies in the defining the structural parameters of compound (IIb) render the claims indefinite since the claimed subject matter is not distinctly claimed.

5. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Compound (IIb) is prepared by direct metathesis reaction with the doubly deprotonated form of ligand (V) with metal precursor  $MX_4$ . Substituent X in metallocene (IIb) is notably defined as hydrogen, OR, SR,  $NR_2$ ,  $PR_2$ , and OR'O [*sic*]. Equilibrium would appear to lie with starting materials for compounds containing  $MX_4$  where X is hydrogen, OR, SR,  $NR_2$ ,  $PR_2$ , and OR'O [*sic*] since such a reaction would result in formation of a stronger base (*i.e.* BOR,  $BNR_2$ , where B is an alkali or alkaline earth metal) than the deprotonated ligand system. Thus, it is not entirely clear how the claimed process would be utilized for making compound (IIb) for all substituents X.

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### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-7, and 12-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 and 18 of copending Application No. 10/536,857. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are drawn to substantially the same process of making polymers of butene in the presence of a catalyst containing polycyclic ligand containing metallocene. Note for copending claims, that that R<sup>6</sup> and R<sup>7</sup> in metallocene (II) may form a saturated or unsaturated 5- or 6-membered ring.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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### ***Response to Arguments***

8. The rejection of claims based on Halterman *et al.* (*J. Organomet. Chem.*, 1998), set forth in paragraphs 17, 18, and 21 has been overcome by amendment. The prior art does not disclose metallocenes containing the requisite Si(R<sup>8</sup>)<sub>2</sub> bridging group and non-hydrogen substituent in the 2-position of the indenyl moiety.

Applicant's arguments with respect to the rejection of claims over Rohrmann *et al.* (U.S. 5,455,366) have been fully considered and are persuasive. Definitions of R<sup>3</sup> and R<sup>7</sup> would preclude the acenaphthindenyl ligand framework presented in Rohrmann *et al.* Accordingly, the has been withdrawn.

The provisional obviousness-type double patenting, as applied to current claims of applications number 10/536,858 and 10/536,857, has been maintained.

### ***Conclusion***

9. Claims are free of the prior art. A discussion of the closest references is provided in paragraph 5 of the office action dated May 22, 2006. Newly cited reference, Tatsumi *et al.* (WO 98/55520; equivalent U.S. 6,573,352) discloses use of Me<sub>2</sub>Si(2-Me-5,6-benzoidenyl)<sub>2</sub>ZrCl<sub>2</sub> as a catalyst component for preparation of propylene copolymer having graft chains of a copolymer of propylene with ethylene and/or  $\alpha$ -olefins having four or more carbon atoms. Clearly, the reference does not disclose the claimed invention.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/  
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July , 2008